YEVDOKIMOV, I.I.; ALEKSEYEV, V.D.; ASHIKHMIN, A.K.; BAYEV, N.V.; BEGLAR'YAN, P.A.; BYCHKOV, I.A.; VESLOVA, Ye.T.; VYZHEKHOVSKAYA, M.F.; GURETSKIY, S.A.; DEMIDOV, I.M.; YESIPOV, Ye.P.; ZHUKOV, V.D.; ZELINSKIY, M.G.; ZOL'NIKOV, F.T.; ZOLOTOVA, L.I.; KIVIN, A.N.; KOMARNITSKIY, Yu.A.; KONSTANTINOV, A.N.; KUL'CHITSKAYA, A.K.; MAKSIMENKO, I.I.; MELENT'YEV, A.A.; MOROZOV, I.G.; MURZINOV, M.I.; OZEMBLOVSKIY, Ch.S.; OSTRYAKOV, K.I.; PANINA, A.A.; PAVLOVSKIY, V.V.; PERMINOV, A.S.; PERSHIN, B.F.; PRONIN, S.F.; PSHENNYY, A.I.; POKROVSKIY, M.I.; RASPONOMAREV, Ye.A.; SEMIN, I.N.; SKLYAROV, Yu.N.; TIBABSHEV, A.I.; FARBEROV, Ya.D.; FEDOROV, G.P.; SHUL'GIN, Ya.S.; YAKIMOV, I.A.; VERINA, G.P., tekhn.red.

[Labor feats of railway workers; stories about the innovators] Trudovye podvigi zheleznodorozhnikov; rasskazy o novatorakh. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 267 p. (MIRA 12:9)
(Railroads) (Socialist competition)

KUL'CHITSKAYA, A.T.

Convallatoxin therapy of patients with chronic circulatory insufficiency. Vrach.delo no.8:859-860 Ag '59. (MIRA 12:12)

1. Fakul'tetskaya terapevticheskaya klinika (zav. - zasluzhennyy deyatel' nauki, prof. M.A. Yasinovskiy) lechebnogo fakul'teta Odesskogo meditsinskogo instituta.
(CONVALLATOXIN) (CARDIOVASCULAR SYSTEM--DISEASES)

Kul'Chitskaya, L.

TARKOVSKIY, G.V.; GOMOLYA, Ye.K.; KUL'CHITSKAYA, D.O.; OSIPENKO, I.S.; MINIOVICH, I.A., assistent

Advanced training for pharmacists in the Department of Pharmacy of the Kiev Institute of Advanced Training for Physicians. Apt.delo 6 no.5:59-60 S-O '57. (MIRA 10:11)

1. Kafedra tekhnologii lekarstvennykh form i galenovykh preparatov (for Miniovich)
(KIEV--PHARMACY--STUDY AND TEACHING)

KUL'CHITSKAYA, I.B.; KUZNETSOVA, N.B.

Durability of steel-pouring ladle stoppers. Ogneupory 27
no.3:112-114 '62. (MIRA 15:3)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Open-hearth furnaces--Equipment and supplies)
(Refractory materials)

SHVARTSMAN, I.Sh.; MIKHAYLOV, Yu.F.; PAPAKIN, Kh.M.; VYDRINA, Zh.A.; KUZNETSOVA, N.V.; VISLOGUZOVA, E.A.; KUL'CHITSKAYA, I.B.

Optimum apparent density of steel pouring stoppers made by the stiff mud process. Ogneupory 30 no.6:9-14 '65.

(MIRA 19:1)

1. Vostochnyy institut ogneuporov (for Shvartsman, Mikhaylov).
2. Nizhne-Tagil'skiy metallurgicheskiy kombinat imeni Lenina (for Papakin, Vydrina, Kuznetsova, Visloguzova, Kul'chitskaya).

S/065/60/000/007/003/008/XX
E194/E484

AUTHORS: Pokhozhayev, V.D., Zaglodin, L.S. Golov, G.S. and Kul'chitskaya, I.V.

TITLE: The Principles of the Rational Use of Hydrogen in Processes of the Hydrodesulphurization of Engine Fuels

PERIODICAL: Khimiya i tekhnologiya topliv i masel 1960, No.7, pp.1-6

TEXT: The output of high sulphur crudes is increasing and accordingly there is increasing demand for hydrosulphurization. Work on the development of a practical industrial hydrodesulphurization process for crude and distillates is being carried on in a number of research institutes including the All-Union Research Institute of the Petroleum Industry and the Groznyy Scientific Research Institute. The first plant has been developed by the design institute Giproneft' on the basis of data supplied by the All-Union Scientific Research Institute of the Petroleum Industry. A hydrodesulphurizing plant is operating successfully on an oil refinery. The process is being further developed by the Lengiprogaz Institute. Distillates are hydrofined on aluminium-cobalt-molybdenum catalyst in the presence of hydrogen at a temperature of 340 to 420°C and pressures

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S/065/60/000/007/003/008/XX
E194/E484

The Principles of the Rational Use of Hydrogen in Processes of the Hydrodesulphurization of Engine Fuels

from 20 to 50 atm using the circuit sh wn in Fig.1. The procedure is described. Use of hydrodesulphurization is limited by lack of hydrogen and possible sources of hydrogen on refineries are discussed. The hydrogen content of available gas varies considerably depending upon the method of production. The hydrogen content of the gas also varies during the actual process of hydrodesulphurization as the hydrogen is used up and must be replaced part way down the circuit. Analyses of circulating gas are given in Table 1 and curves of the consumption of 100% hydrogen as function of its content in the circulating gas and discharge from the first reactor are given in Fig.2. Reaction and ballast gases accumulate in the circulating gas and the concentration of hydrogen falls. It is accordingly necessary to extract part of this circulating gas and to replace it by gas containing hydrogen. This increases the hydrogen consumption because the used circulating gas is used for fuel. In developing technological circuits for hydrodesulphurization of various petroleum fractions, the specific properties of the individual feed stocks should be considered in relation to the

Card 2/3

S/065/60/000/007/003/008/XX
E194/E484

The Principles of the Rational Use of Hydrogen in Processes of the Hydrodesulphurization of Engine Fuels

concentration of hydrogen in the circulating gas. If a refinery has several hydrodesulphurization installations each consisting of two units, several types of fuel may be treated simultaneously each requiring different concentrations of hydrogen in the circulating gas, matters being arranged so that gas extracted from units requiring a higher concentration of hydrogen is delivered to units requiring a lower concentration and so on, see diagram of Fig.4. If the extracted gas is used for fuel in the usual way, the hydrogen consumption necessary in the hydrodesulphurization of various fuels is given in Table 2; the corresponding figures when the series system is used are given in Table 3. With the series system, for each ton of engine fuel refined there is an economy of 3.2 kilograms of hydrogen. Thus in a refinery treating six million tons of sulphur-containing crude a year which produces about two million tons of engine fuel requiring hydrodesulphurization, the use of the series hydrodesulphurization circuit gives an economy of 6400 tons of hydrogen a year. There are 4 figures and 3 tables.

ASSOCIATION: Lengiprogaz
Card 3/3

PINSKAYA, R.M.; BASHTA, A.S., EPSHTEYN, P.D.; ROSLIK, S.M.; ARENZON, P.Ya.; KORSUNSKYA, R.M.; VASINA, I.N.; CHEKRYGINA, N.I.; VISHNEVSKAYA, Z.Ya.; KUL'CHITSKAYA, I.Ya.

Treatment of patients with tuberculous meningitis without subarachnoid administration of antibacterial preparations. Probl.tub. 38 no.1:60-67 '60. (MIRA 13:10)
(MENINGES—TUBERCULOSIS)

KUL'CHITSKAYA, L. G.: Master Med Sci (diss) -- "The effect of streptomycin in the course of experimental cholecystitis". Khar'kov, 1958. 11 pp (Khar'kov State Med Inst), 200 copies (KL, No 6, 1959, 144)

KOVSHAR', F.V., prof.; OL'GINA, F.P., dotsent; KIT, S.M., dotsent; KUL'CHITSKAYA, L.G.; GAYEVYY, M.D.

Data from a clinical and an experimental investigation of the properties of reserpine. Vrach.delo no.1:91 '60. (MIRA 13:6)

1. Kafedra farmakologii (zav. - prof. F.V. Kovshar') i kafedra gospital'noy terapii (zav. - prof. Ya.V. Borin) Stanislavskogo meditsinskogo instituta.
(RESERPINE) (HYPERTENSION)

KIT, S.M.; KUL'CHITSKAYA, L.G.

Effect of reserpine on the higher nervous activity in white rats. Farm.i toks. 23 no.6:475-480 N-D '60. (MIRA 14:3)

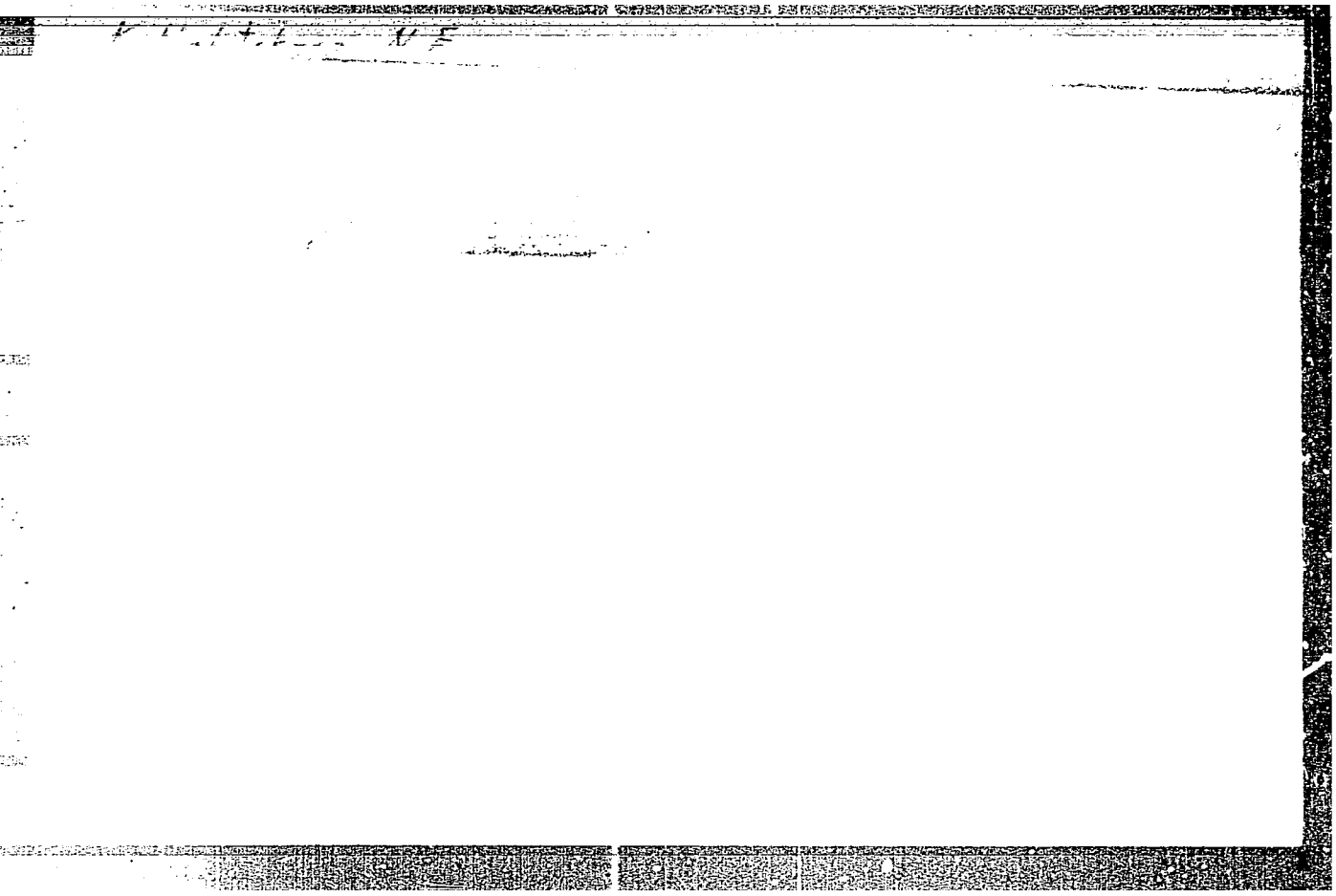
1. Kafedra farmakologii (zav. - prof. F.V.Kovshar') Stanislavskogo meditsinskogo instituta.
(CONDITIONED RESPONSE) (RESERPINE)

KUL'CHITSKAYA, N. Ye.

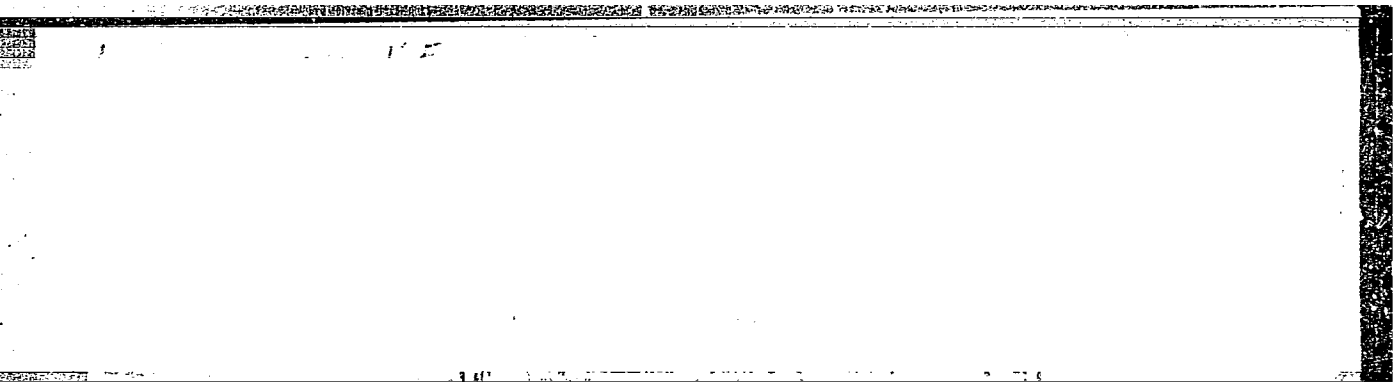
"Reaction of Maleic Anhydride With Aromatic Amines." Cand Chem Sci, Dnepropetrovsk Chemicotechnological Inst, Dnepropetrovsk, 1954. (RZhKhim, No 22, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55



Acylation of aromatic amines with maleic anhydride
A. E. Kretov and N. E. Kul'ginskaya (F. E. Dzerzhinskii Chem. Technol. Inst., Dnepropetrovsk). *Zhur. Obshchei Khim.* 25, 2474-84(1955).— The curves of the acylation rates of various aromatic amines with maleic anhydride (I) at 10° and 30° in equimolar mixts. are given. The values of log *k* (in l./mole-min.) are as follows: $PhNH_2$ 0.46; *o*-$MeOC_6H_4NH_2$ 0.3; *p*-$MeC_6H_4NH_2$ 0.1; 2-$C_{10}H_7NH_2$ 0.14; *p*-$ClC_6H_4NH_2$ −0.2; *m*-$PhN_2C_6H_4NH_2$ −0.8; *o*-$ClC_6H_4NH_2$ −1.25; *m*-$O_2NC_6H_4NH_2$ −1.04. This series parallels the basicity of the amines. Stirring the amines with 10% excess I in C_6H_6, $PhCl$, or Me_2CO gave the following *ArNHC(O)CH:CHCO₂H* (Ar shown): 97%, m. 198–9°; 93% *p-PhN₂C₆H₄*, m. 208–9°; 98% *m-MeC₆H₄*, m. 167°; 96% *o-O₂NC₆H₄*, m. 134°; 96% *m-HO₂CC₆H₄*, m. 185°; 95% 2,5-$Cl_2C_6H_3$, m. 181°; 95% 2,4-$Cl_2C_6H_3$, m. 162°; 94% *4,3-Cl(O₂N)C₆H₃*, m. 169–70°; 92% *4,5,2-Me(O₂N)(MeO)C₆H₂*, m. 135–6°; 94% *4-EtO(O₂N)-C₆H₃*, m. 137–8°; 92% *4,5-Me(O₂N)C₆H₂*, m. 126°; 95% *2,5-Me(O₂N)C₆H₃*, m. 154°; 93% *4,2-ClMeC₆H₃*, m. 129–30°; 95% *p*-$AcNHC_6H_4$, decomp. 218°. G. M. Kosolapoff



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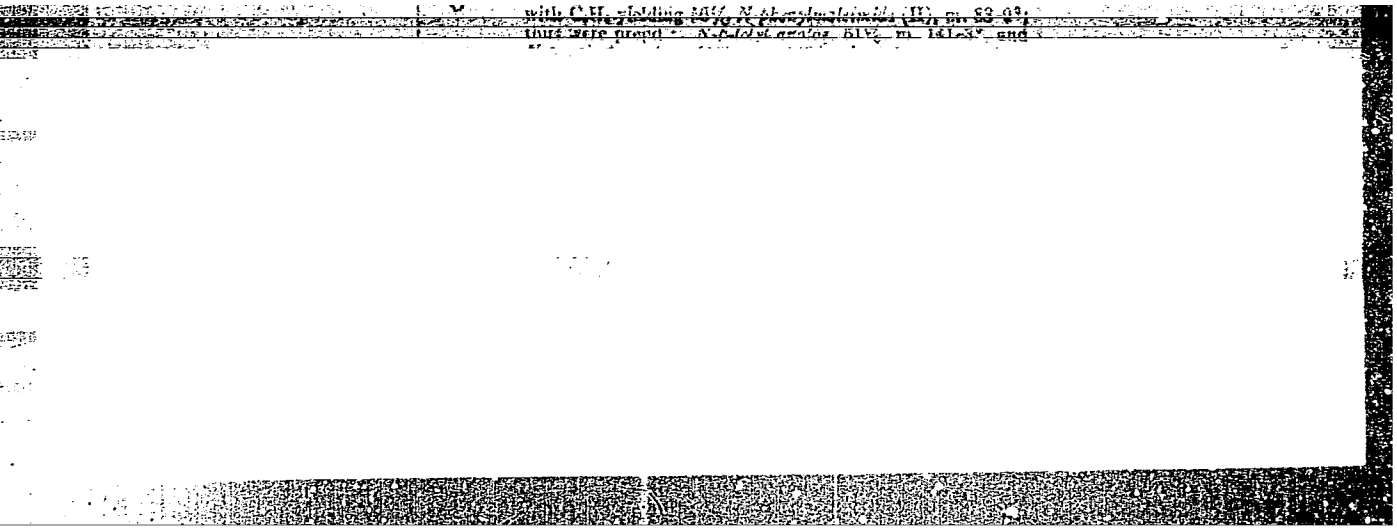

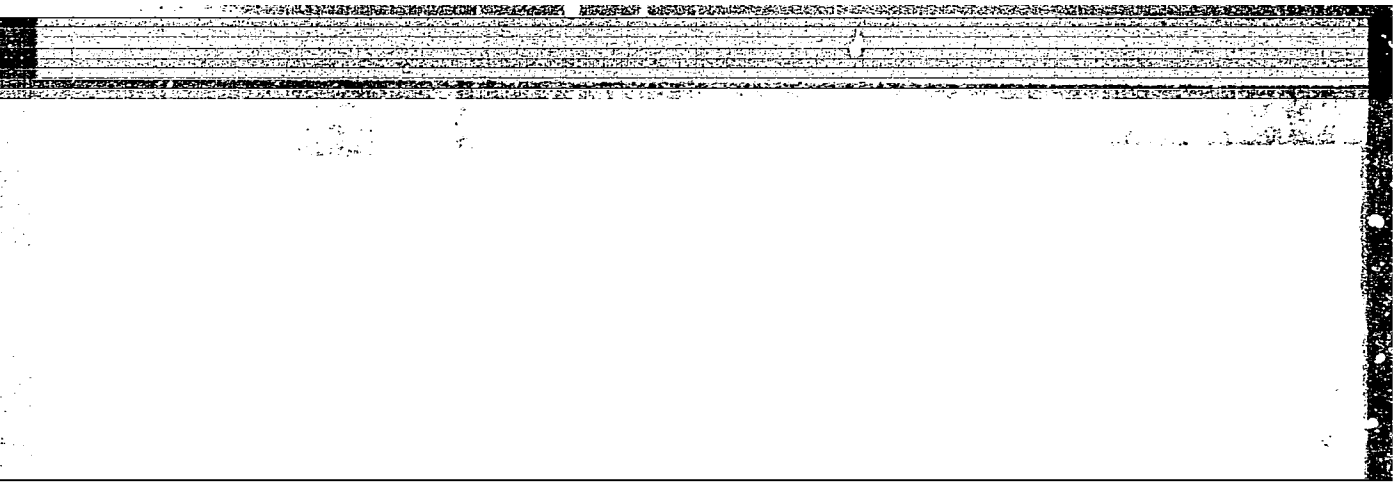

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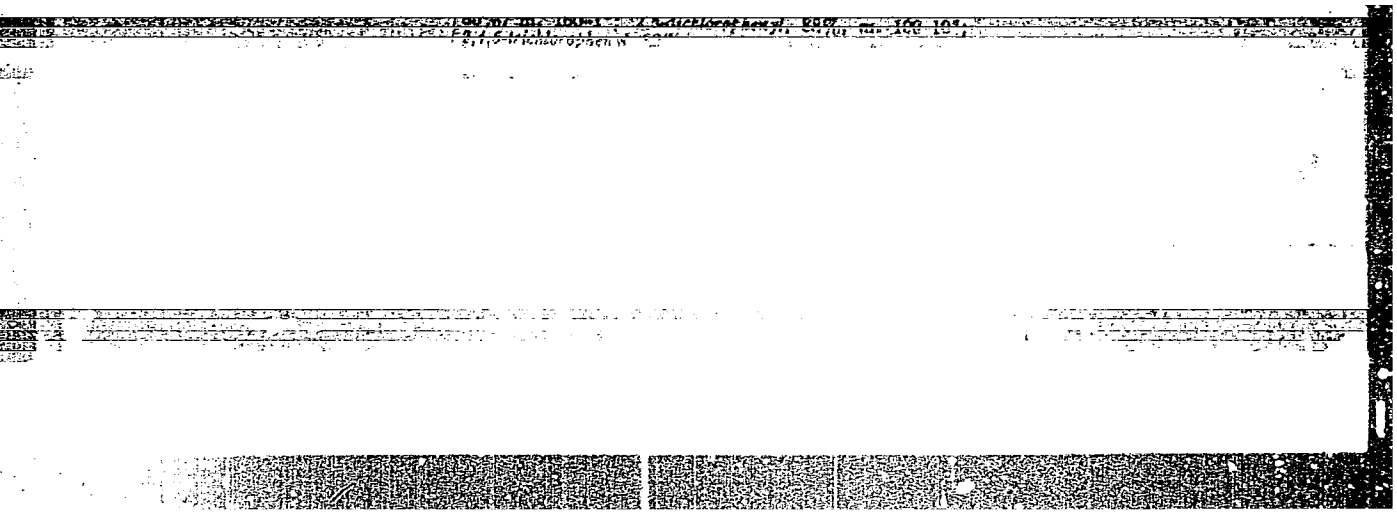


APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410002-6"

KRETOV, A. Ye.; KUL'CHITSKAYA, N.Ye.; MAL'NOV, A.F.

Isomerism of N-arylmaleimides. Zhur.ob.khim. 31 no.8:2588-2594 Ag '61. (MIRA 14:8)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.
(Maleimide)

.1.

STRUTINSKIY, Aleksey Bonifat'yevich, inzh.; TRET'YAKOV, Lev Dmitriyevich, kand.tekhn.nauk; TSEYTLIN, Aleksandr Aleksandrovich, kand.tekhn. nauk; VOLYANSKIY, A., red.; KUL'CHITSKAYA, O., red.; IOAKIMIS, A., tekhn.red.; FISENKO, A., tekhn.red.

[Builder's handbook] Spravochnik mastera-stroitelia. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit., 1957. 340 p. (MIRA 11:3)
(Building)

VIDUYEV, Nikolay Grigor'yevich; RAKITOV, Daniil Ivanovich; GRZHIBOVSKIY, Vladislav Pavlovich; KRUMELIS, Vsevolod Andreyevich; PODREZAN, Vladimir Viktorovich; KUL'CHITSKAYA, O., red.; LYAMKIN, V., tekhn.red.

[Fundamentals of geodetic layout operations] Osnovy geodezicheskikh razbivochnykh rabot. Izd.2., ispr. i dop. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. U.S.S.R., 1960. 469 p.
(MIRA 13:11)

(Surveying) (Building)

YAMPOL'SKIY, Leonid Semenovich; KOZLOVSKAYA, Yadviga Kazimirovna; KUL'CHITSKAYA, O., red.; LEUSHCHENKO, N., tekhn. red.

[Civil engineering; an English language textbook] Civil engineering; uchebnoe posobie po angliiskomu iazyku. Kiev, Gosstroiizdat, 1962. 338 p. (MIRA 16:7)
(Civil engineering)

KUL'CHITSKAYA, O.I. [Kul'chyts'ka, O.I.]

Peculiarities in the development of shame in preschool children. Nauk. zap. Nauk.-dosl. inst. psykhol. 11:[illegible] '59. (MIRA 13:11)

1. Institut psikhologii, Kiyev.
(Shame)

VOSTROKNUTOV, Ye.; KUL'CHITSKAYA, V.

Repairing tubless tires. Avt. transp. 37 no.5:22-24 My '59.
(MIRA 12:8)

(Tires, Rubber--Maintenance and repair)

KUL'CHITSKAYA, V.S.

VEKSLER, A.A.; GRIGOR'YEVA, A.M?; KUL'CHITSKAYA, V.S.; LUTSENKO, A.I.; PEREL'ZON, R.A.; TRYASUNOVA, M.V.; SLEMZIN, A.A., redaktor; FOMICHEV, P.M., tekhnicheskiy redaktor

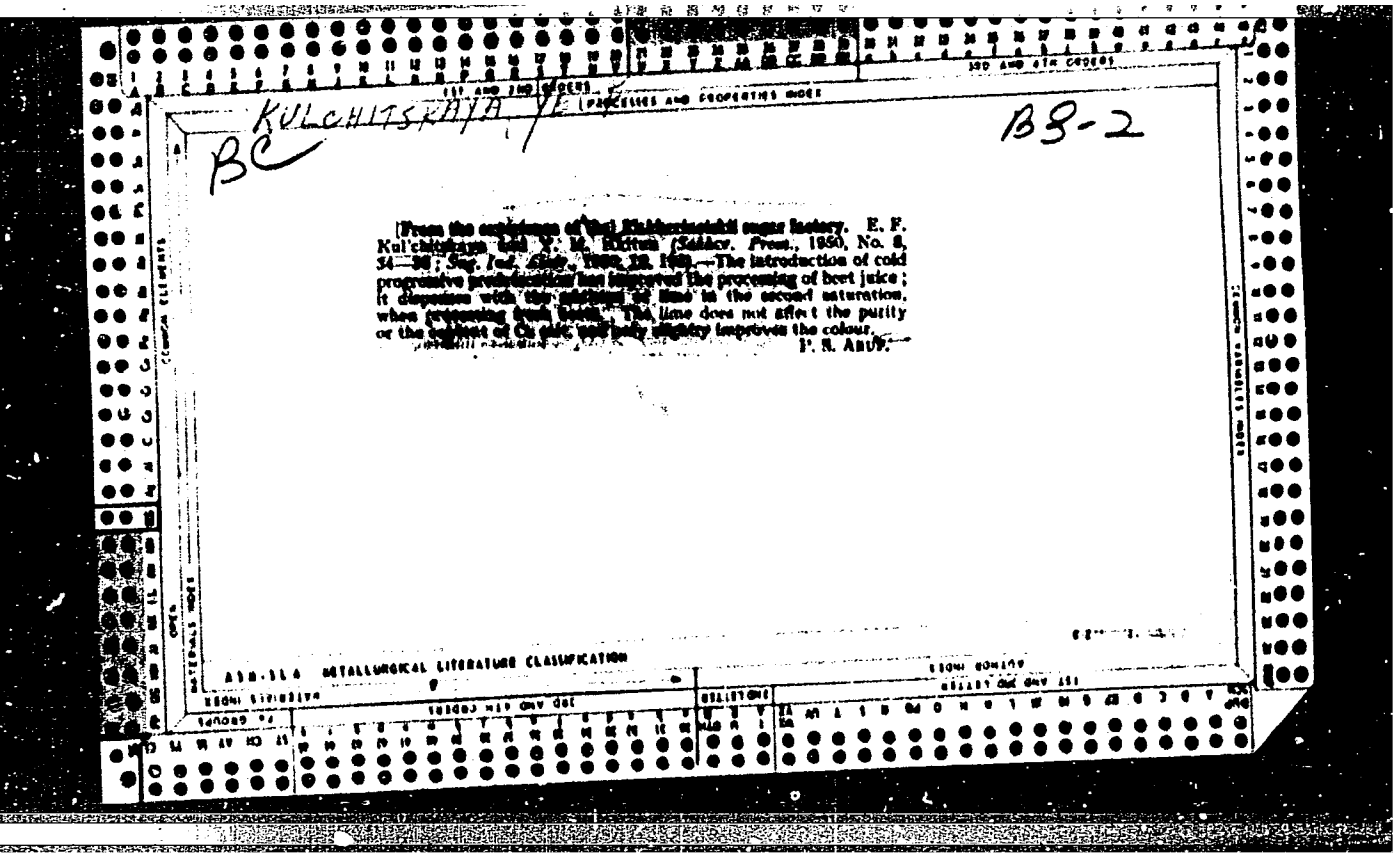
[Soviet live stock in numbers; a statistical manual] Chidlennost' skota v SSSR; statisticheskii sbornik. Moskva, Gos.stat.izd-vo. 1957. 618 p. (MLRA 10:8)

1. Russia (1923- U.S.S.R.) TSentral'noye statisticheskoye upravleniye.
(Stock and stockbreeding--Statistics)

GORDIYENKO, V.V.; KUL'CHITSKAYA, Ye.A.

Find of iron ilmenorutile and some characteristics of the isomorphism of titanium, iron, niobium, and tantalum in the rutile group. Mat. po min. Kol'. poluost. 2:133-139 '62.
(MIRA 16:4)

(Kola Peninsual—Ilmenorutile)
(Kola Peninsula—Isomorphism)



[From the catalogue of the Kul'chitskii sugar factory. E. F. Kul'chitskaya and V. M. Dikhtyar (Sakhar. Prom., 1950, No. 8, 54—58; Sug. Ind. Abstr., 1950, 12, 149).—The introduction of cold progressive predefecation has improved the processing of beet juice; it dispenses with the addition of lime in the second saturation, when processing fresh beets. The lime does not affect the purity or the content of Ca salt, but only slightly improves the colour.

I. S. ABUV.

KHITUN, G.M.; KUL'CHITSKAYA, Ye.F.

Practical application of work nomograms for the diffusion battery. Sakh. prom. 27 no.9:26-28 '53. (MLRA 6:11)

1. Zhdanovskiy sakharnyy zavod. (Sugar industry)

KRIVOSHAYA, Yu. K.

KRIVOSHAYA, Yu. K.: "The productivity of oil wells under water pressure for deposits with various lithological structures of the stratum." All-Union Petroleum-Gas Sci Res Inst (VNII). Moscow, 1956 (Dissertations for the Degree of Candidate in Geological Sciences).

SO: Knizhnaya letopis' No. 22, 1956

KUL'CHITSKAYA, Yu.K.; LITVINOV, A.A.

Interference of production and injection wells. Neft. khoz. 38 no.11:6-10 N '60. (MIRA 14:4)
(Romashkino region—Oil field flooding)

KUL'CHITSKAYA, Z. M.

USSR/Cultivable Plants - Grains. M-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10736

Author : Kul'chitskaya, Z. M.

Inst : Ramensk. Testing and Selecting Station.

Title : Spring Wheat Selection.

Orig Pub : Tr. po selektsii, agrotekhn. i zashchite rast. Ramensk. opyt.-selekts. st., 1956, 5, 75-89.

Abstract : This is a review of the barie hard and soft spring wheat material used on the Ramensk Testing and Selecting Station from 1947 to 1954. A description is given of two varieties Ramenskaya 5043 and Ramenskaya 19, which have been turned over to the state for testing.

Card 1/1

Kul'chitskaya, Z.A.

KUL'CHITSKAYA, Z.A., kand. sel'skokhozyaystvennykh nauk.

Intravarietal culling of Ramonskii-77 peas. Agrobiologiia no.6:124-126 N-D '57. (MIRA 10:12)

1. Ramonskaya opytno-selektsionnaya stantsiya, Voronezhskaya stantsiya.
(Pea breeding)

YAKOVLEV, A.D.; KUL'CHITSKAYTE, Ye.I.

Hardening of soft epoxide resins by a carboxyl containing methacrylic copolymer in films. Izv.vys.uch.zav.; khim.i khim.tekh. 5 no.4:642-646 '62. (MIRA 15:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra tekhnologii lakov i krasok.
(Epoxy resins)
(Polymers)

IORDANOV, D., inzh.; [illegible], N., inzh.; KULCHITSKI, [illegible]

Nitrocementation of low-carbon alloyed construction steel.
Mashinostroene 13 no.4:3-5 '64.

B/005/63/000/001/001/001
D274/D308

AUTHORS: Yordanov, D., Engineer, Stafanova, N., Kulchitski, V. and Iliev, Lozan

TITLE: Introduction of gas cyanization of structural steel in the State Machine building Plant at Kolarovgrad

PERIODICAL: Mashinostroene, no. 1, 1963, 12-18

TEXT: The experiments were carried out with round specimens made of medium-carbon alloy steel 40X (40Kh), in U-105 (Tsa-105) furnaces at a temperature of 790-840°C. During the gas cyanization, petrol and liquid ammonia entering the furnace from different points were used as the active gas. The petrol was fed in by a dropper, while the consumption of ammonia was read on a rheometer charged with toluene. Best results with respect to the diffusion of carbon and nitrogen in the surface layer of the specimens were obtained by using an optimum quantity of 250-300 drops/min of petrol and 14 liters/min of ammonia. Under these conditions the layer attains its highest durability and stability, and a higher strength

Card 1/2

Introduction of gas ...

of wear than when a liquid cyanization is applied. The duration of the process of saturation must not exceed 100-110 minutes, when the required layer of 0.25 mm thickness is obtained. This process cuts the time of liquid cyanization by 15-20%. During the optimum conditions of the process an ε-phase in the structure of the diffusion layer does not exist i.e. the strength of the specimens is higher, and the transition to the core is smoother. The fatigue limit of the specimens was 57.1 kg/mm^2. The effect of gas cyanization on the deformation of different machine parts was within the admissible limits. There are 12 figures and 6 tables.

Card 2/2

TSELINKO, M.G. (Zhitomir); OREKHOV, V.P. (Ryazan'); PANICH, K.I.; FEDOROV, I.V. (g. Kurgan); KUL'CHITSKIY, A.P. (g. Kurgan); A.M. (pos. Tovarkovskiy Bogoroditskogo rayona, Tul'skoy oblasti); GALLOVA, M. (Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika; YANOVICH, I. (Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika); KADLECHIK, I. (Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika); PETRAK, M. (Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika); PRITOKA, O. (Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika); LBOV, A.G.

Suggestions and advice. Fiz. v shkole 22 no.6:62-64, 96 N-D '62. (MIRA 16:2)

1. 636-ya shkola, Moskva (for Panich). 2. Chkalovskaya srednyaya shkola Gor'kovskoy oblasti (for Lbov).

KUL'CHITSKIY, A. V.

Wheat

Asexual hybridization of winter wheat. Sel. i sem. 19 no. 3. 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1952 1953; Uncl.

KUL' CHITSKIY, A. V.

Turbulence and Dynamic Meterorology

Dissertation: "An Investigation of Ground Velocities of Wind Waves in the Zone of Their Deterioration on Hydraulic Structures With a Sloping Wall." Cand Tech Sci, Moscow Construction Engineering Inst, Moscow, 1953. (Referativnyy Zhurnal--Mekhanika, Moscow, Mar 54)

SO: SUM 213, 20 Sep 1954

KUL'CHITSKIY, A.V., kandidat tekhnicheskikh nauk.

On the height of waves rolling against embankments. Gidr.stroi. 25 no.11:34-36 D '56. (MLRA 10:1)
(Embankments) (Waves)

KUL'CHITSKIY, B.I., agronom

Method for controlling the sugar beet nematode. Zashch. rast. ot vred. i bol. 4 no.5:27 S-O '59. (MIRA 16:1)

1. Uladovskiy sveklosovkhoz Vinnitskogo sakharotresta.
(Sugar beets--Diseases and pests)
(Nematode diseases of plants)

KUL'CHITSKIY, D.L.

Geothermal characteristics of the Gaynovka gas field. Neft. i gaz. prom. no.2:10-13 Ap-Je '65. (MIRA 18:6)

MAL'GINOV, S.I., inzh.; KUL'CHITSKIY, G.B., inzh.

Precast reinforced concrete tunnels for industrial piping. Prom. stroi. 42 no.2:42 '65. (MIRA 18:4)

ZAK, L.I.; KUL'CHITSKIY, G.Ts.

Mechanization of grain stock taking. Spirt.prom. 20 no.2:34 '54.
(MLRA 7:6)

(Grain--Storage)

ZAK, L.I.; KUL'CHITSKIY, G.Ts.

Mechanized preparation and feeding of grain into steeping tanks.
Spirt.prom. 20 no.4:41 '54. (MLRA 7:12)
(Distilling industries)

KUL'CHITSKIY, O.TS.

ZAK, L.I.; KUL'CHITSKIY, O.TS.

Improving the use of FA-10 filters. Spirt. prom. 23 no.5:36 '57.
(MLRA 10:8)

1. Chelyabinskiy spirtovoy trest.
(Filters and filtration)

ZAK, L.I.; KUL'CHITSKIY, G.TS.

Automatic liquid level regulator for first-stage mash converters.
Spirt.prom. 23 no.6:34-36 '57. (MIRA 10:12)
(Distilling industries) (Liquid level indicators)

ZAK, L.I.; KUL'CHITSKIY, G.Ts.

Conveying boxes containing bottles and finished porducts in liqueur and vodka plants. Spirt.prom. 23 no.8:17-18 '57. (MIRA 11:1)

(Liquor industry--Equipment and supplies)
(Conveying machinery)

KUL'CHITSKIY, G.TS.

ZAK, L.I.; KUL'CHITSKIY, G.TS.

Regulation of temperature in the mash converter. Spirt. prom. 24 no.1:40 '58. (MIRA 11:3)

1.Chelyabinskiy sovnarkhoz.
(Distilling industries--Equipment and supplies)
(Thermostat)

KUL'CHITSKIY, G.TS.

ZAK, L.I.; KUL'CHITSKIY, G.TS.

Burning milled peat in small-capacity boilers. Spirt. prom. 24 no.2: 15-16 '58. (MIRA 11:3)

(Boilers) (Peat)

KUL'CHITSKIY, I.F. [Kul'chyts'kyi, I.F.]

Rakhmanov's improved parturient bed. Ped. Akush. i gin. 24 no.6:61 '62. (MIRA 17:4)

1. Rodil'noye otdeleniye (zaveduyushchiy I.F. Kul'chitskiy) Rudkovskoy rayonnoy bol'nitsy (glavnyy vrach M.D. Gnip [Hnyp, M.D.]) L'vovskoy oblasti.

KUL'CHITSKIY, K.I., dotsent

Forms of variation in the blood supply of the human pancreas [with summary in English. p.156] Vest.khir. 77 no.5:8-12 My '56.
(MLRA 9:8)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. prof. S.T.Novitskiy) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta imeni akademika A.A.Bogomol'tsa
(PANCREAS, blood supply,
variability of vascularization (Rus))

POLAND / Microbiology. Microorganisms Pathogenic to Humans and Animals.

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 33902

Author : Kostshenskiy, Kulchitskiy, Paklerskaya-Pobratyn
Inst : Not given
Title : Evaluation of the Increase in Streptomycin Resistance of Tubercle Bacilli in Primary and Secondary Cultures, Based on Experiments Conducted in 1954-1955.

Orig Pub : Gruzlica, 1957, 25, No. 1, 9-21.

Abstract : The streptomycin resistance of tubercle bacilli (TB) isolated from patients in 1954-1955 was determined. Cultures were considered resistant to streptomycin when grown on media containing 10 or more units of streptomycin (I) per ml. Statistical treatment of results indicates a quantitative increase of resistant strains in 1955 in primary

Card 1/2

POLAND / Microbiology. Microorganisms Pathogenic to Humans and Animals. F-3

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 33902

Abstract : cultures by 1.64% and in secondary ones by 6.18%. The number of resistant strains increased proportionally to the number and duration of I use. Theoretically, all isolated strains should be resistant to I by 1970, if the treatment methods are not changed in principle (a combined use of I with PASK or isoniazide should not delay formation of TB streptomycin-resistance for any length of time).

Card 2/2

KUL'CHITSKIY, K.I.

KUL'CHITSKIY, K.I.

First plenum of the Ukrainian Republic Society of Anatomists, Histologists and Embryologists. Arkh.anat.gist. i embr. 34 no.5: 106-107 S-O '57. (MIRA 11:1)
(MORPHOLOGY)

USSR / Human and Animal Morphology (Normal and Pathological). S
Circulatory System. Blood Vessels.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2954

Author : Kul'chitskiy, K. I.; Chernyshonko, L. V.; Shkol'nik, B. I.
Inst : Not given
Title : On the Topography of the Artery of the Gallbladder

Orig Pub : Vestn. khirurgii, 1957, No 6, 34-37

Abstract : Upon dissection of vessels following injection with solidifying fluid substances, it was demonstrated that in humans there are 1 or 2 arteries of the gallbladder which originate from various vessels of the hepato-duodenal node. Most frequently the vesical artery (VA) is a single one and originates from the right hepatic artery. In 7 out of 279 cases VA originated from the hepatic artery proper, in 4 cases from the left hepatic, in 3 cases from the common hepatic artery, in 2 cases

Card 1/2 Obsh. operativn. khirurgiya i topograficheskaya anatomiya
30

USSR / Human and Animal Morphology (Normal and Pathological). S
Circulatory System. Blood Vessels.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2954

from the gastroduodenal, in 1 case from the right gastro-epiploic, and in 2 cases from the superior posterior pancreaticoduodenal artery. The latter was not previously noted in the literature. A double VA was present in 36 cases (12.90%). Both of them may originate from the right hepatic artery or its branches which enter the liver. In other cases the left branch of VA originated from various vessels of the hepatoduodenal node. It is characteristic of VA to have a superficial topography in relation to the bile ducts. A low ligation of VA may produce necrosis of biliary duct walls.
-- N. M. Shestopalova

Card 2/2

KUL'CHITSKIY, K.I., PROL'KIS, V.V.

Experimental myocardial infarct [with summary in English].
Eksper.khir 3 no.5:22-29 S-O '58 (MIRA 11:11)

1. Iz kafedry normal'noy fiziologii (zav. - deystvitel'nyy chlen AMN USSR prof. G.V. Fol'bort) kafedry operativnoy khirurgii (zav - prof. S.T. Novitskiy) Kiyevskogo meditsinskogo instituta i kafedry anatomii (zav. - chlen-korrespondent AMN SSSR prof. B.A. Dolgo-Saburov) Voyenno-meditsinskoy akademii imeni S.M. Kirova.
(MYOCARDIAL INFARCT, exper.
method of induction in dogs (Rus))

KISELEVA, A.F., doktor med.nauk, KUL'CHITSKIY, K.I., dots.

Morphological changes in the intracardiac nervous system in myocardial infarct.(experimental and human). Vrach.delo no.8:795-799 Ag '58 (MIRA 11:8)

1. Kafedra patologicheskoy anatomii (zav. - zasluzhenyy deyatel' nauki prof. Ye.I. Chayka), kafedra topograficheskoy anatomii (zav. - prof. S.T. Novitskiy [deceased]) Kiyevskogo meditsinskogo instituta i kafedra anatomii (nachal'nik - chlen-korrespondent AMN SSSR prof. B.A. Dolgo-Saburov) Voyenno-meditsinskoy akademii imeni S.M. Kirova, Leningrad.
(HEART--INNERVATION)
(HEART--INFARCTION)

KISELEVA, A.F., dotsent; KUL'CHITSKIY, K.I.

Morphological changes in the nerve elements of the cardiac vessels in myocardial infarct. Vrach.delo no.7:709-713 Jl '59. (MIRA 12:12)

1. Kiyevskiy meditsinskiy institut.
(CORONARY VESSELS--INNERVATION)
(HEART--INFARCTION)

KABAK, K.S.; KARUPU, B.Ya.; KUL'CHINSKIY, K.I.; LEV, I.D.; MAZHUGA, P.M.; MANZIY, S.F.

Survey of work of the Sixth All-Union Congress of Anatomists, Histologists and Embryologists. Arkh.anat.gist. i embr. 36 no.2:95-127 F '59. (MIRA 12:4)

(ANATOMY--CONGRESSES)

KUL'CHITSKIY, K.I.; MIKHAYLOV, S.S.

Work of the Sixth All-Union Congress of Anatomists, Histologists and Embryologists. Vest.khir. 82 no.1:151-158 Ja '59.
(MIRA 12:2)

(ANATOMY--CONGRESSES)

DZHAVAKHISHVILI, N.A.; KUL'CHITSKIY, K.I.; MEL'MAN, Ye.P.

All-Union Conference on the Experimental Morphology of the Heart and Vessels. Arkh anat. gist i embr. 38 no. 6:117-122 Je '60. (MIRA 13:12)

(CARDIOVASCULAR SYSTEM)

BUSHMAKINA, Z.I.; VERKHRATSKIY, N.S.; KONSTANTINOVSKIY, G.A.; KOSTYUK, L.V.; KUZ'MINSKAYA, U.A.; KUL'CHITSKIY, K.I.; MIL'KO, V.I.; FROL'KIS, V.V.

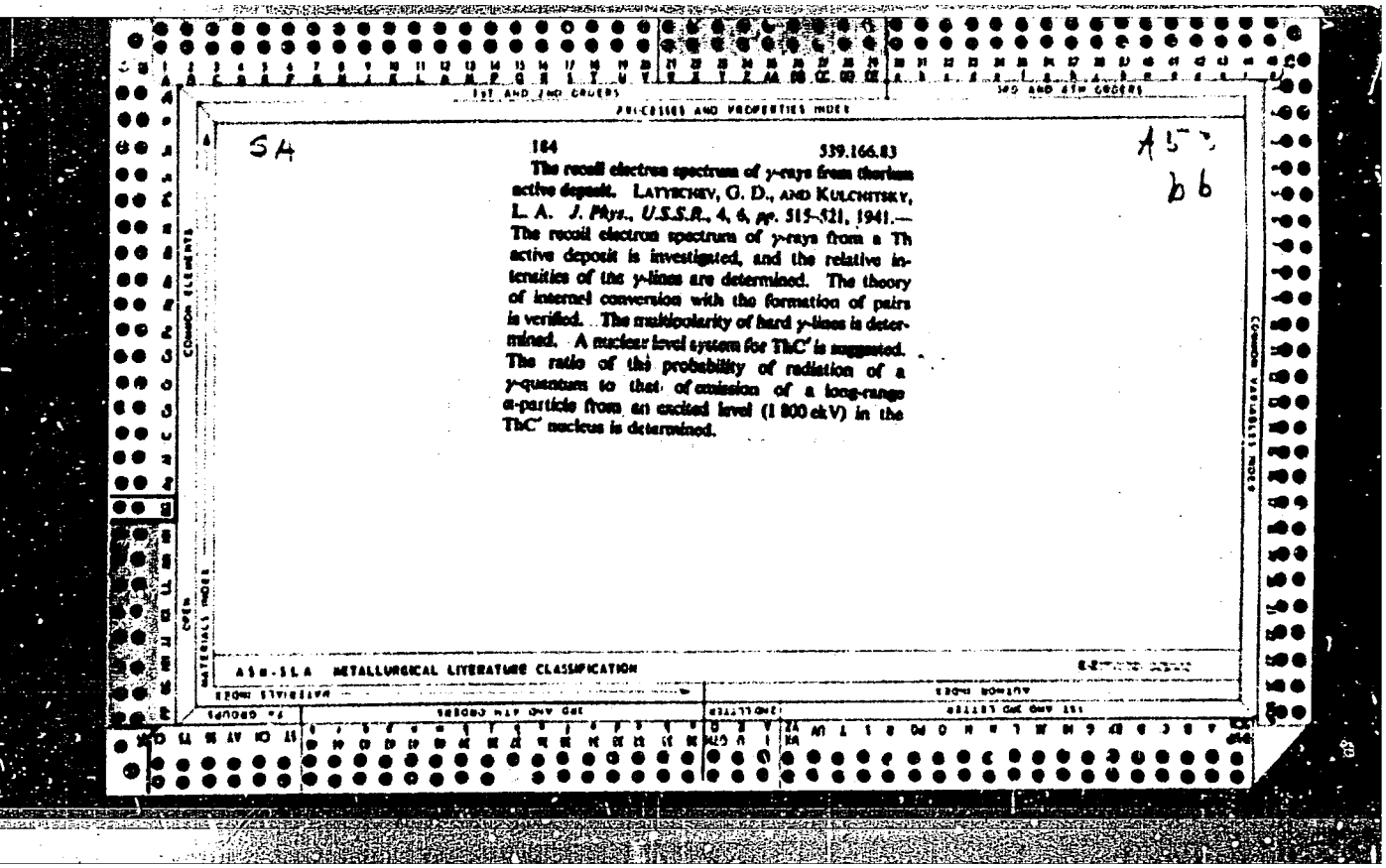
Neurohumoral regulation of the cardiovascular system in experimental arteriosclerosis. Vrach. delo no.1:3-11 Ja '62. (MIRA 15:2)

1. Institut gerontologii i eksperimental'noy patologii AMN SSSR, Kiyevskiy meditsinskiy institut.
(ARTERIOSCLEROSIS) (CARDIOVASCULAR SYSTEM)
(REFLEXES)

FROL'KIS, Vladimir Veniaminovich, doktor med. nauk; KUL'CHITSKIY, Konstantin Ivanovich, dots.; MIL'KO, Vasiliy Ivanovich, dots.; KUZ'MINSKAYA, Undina Anatol'yevna, kand. med. nauk; FEDOROV, I.I., red.; RAYZ, A.L., tekhn. red.; CHUCHUPAK, V.D., tekhn. red.

[Coronary blood circulation and experimental myocardial infarct] Koronarnoe krovoobrashchenie i eksperimental'nyi infarkt miokarda. Kiev, Gosmedizdat USSR, 1962. 254 p. (MIRA 16:11)

(HEART--INFARCTION) (CORONARY VESSELS)



SA

184 539.166.83

The recoil electron spectrum of γ-rays from thorium active deposit. LATYSHEV, G. D., AND KULCHITSKY, L. A. *J. Phys., U.S.S.R.*, 4, 6, pp. 515–521, 1941.—The recoil electron spectrum of γ-rays from a Th active deposit is investigated, and the relative intensities of the γ-lines are determined. The theory of internal conversion with the formation of pairs is verified. The multipolarity of hard γ-lines is determined. A nuclear level system for ThC′ is suggested. The ratio of the probability of radiation of a γ-quantum to that of emission of a long-range α-particle from an excited level (1 800 ek V) in the ThC′ nucleus is determined.

A5?
b6

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KULCHITSKY, L. A.

V

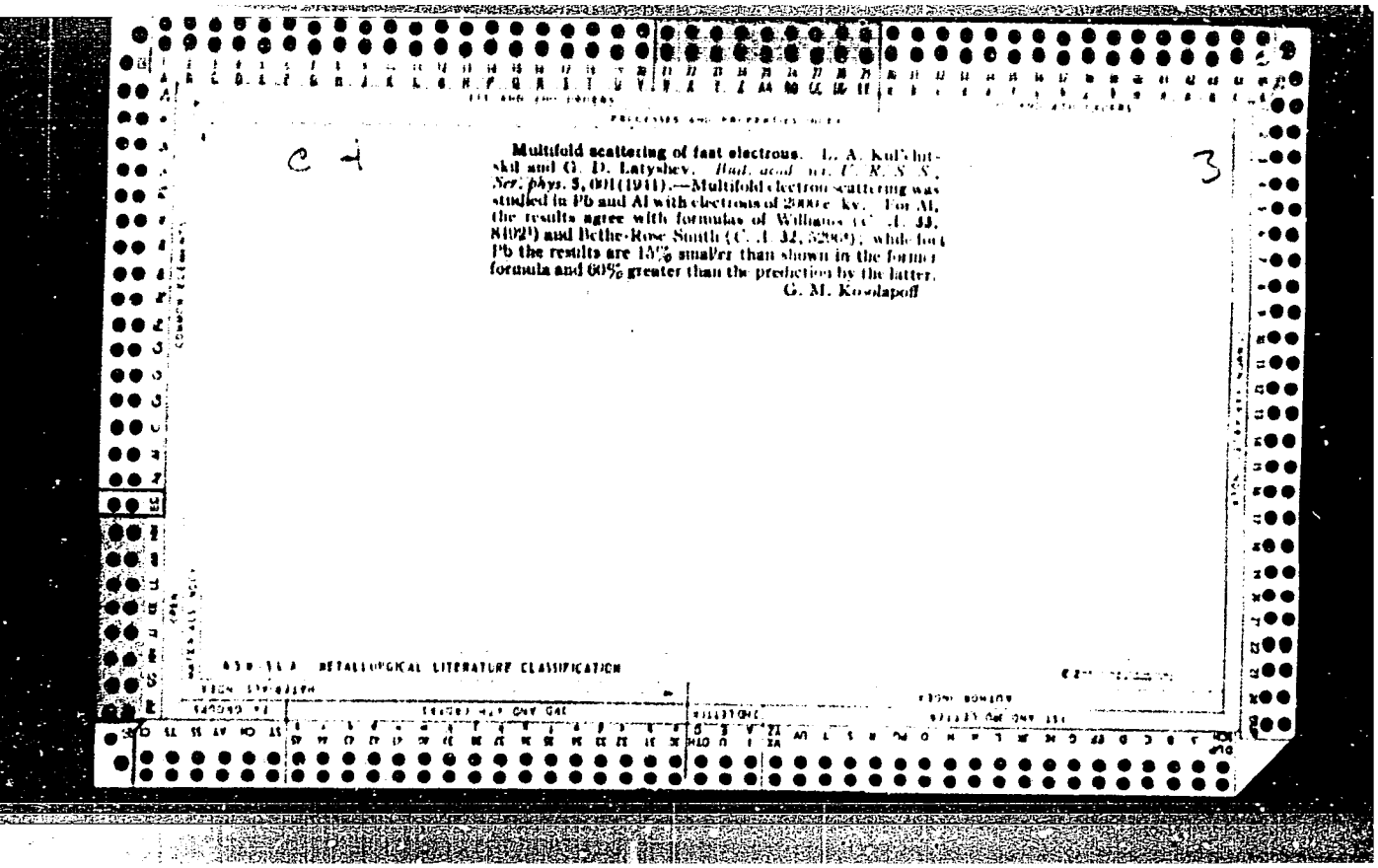
3,A

2370 537.533.74

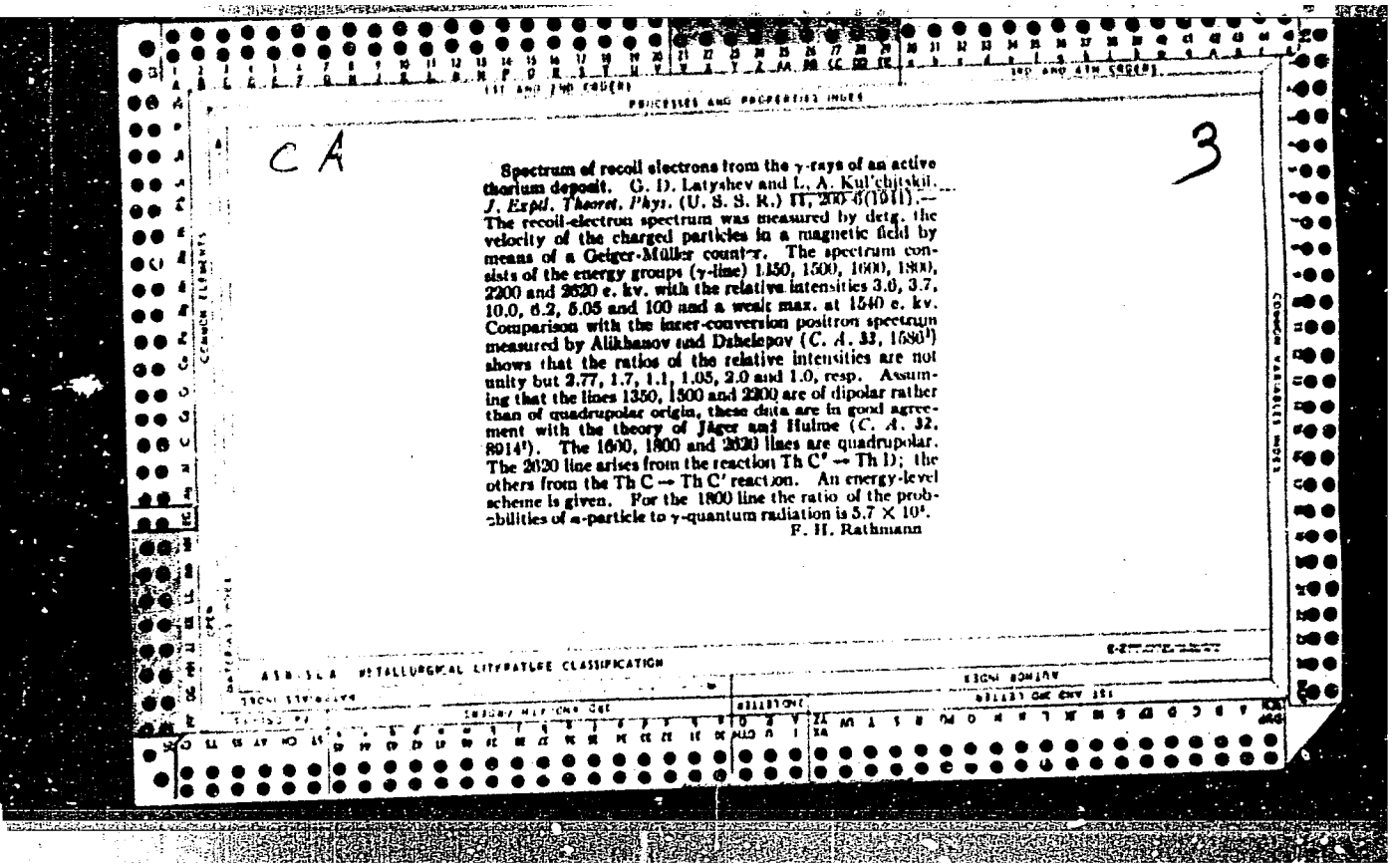
The scattering of fast electrons. L. KULCHITSKY, L. A., AND LATYSHEV, G. D. *J. Phys., U.S.S.R.*, 5, 4, *pp.* 249-261, 1941. – Method and apparatus are described. The multiple scattering of fast electrons of 2·25 eMV energy is investigated in Al, Fe, Cu, Mo, Ag, Sn, Ta, Au and Pb foils. The exp. results are compared with theory. For the elements from Al to Sn the multiple scattering coincides with the theoretical. For the heavy elements Ta, Au, Pb, the observed scattering is less than the theoretical by 10-13%.

A 53

1



Multifold scattering of fast electrons. L. A. Kul'chitskii and G. D. Latyshev. *Bull. acad. sci. U.R.S.S., Ser. phys.* **5**, 691 (1941).—Multifold electron scattering was studied in Pb and Al with electrons of 2000 kv. For Al, the results agree with formulas of Williams (C. A. 33, 8102) and Bethe-Rose-Smith (C. A. 32, 5290); while for Pb the results are 15% smaller than shown in the former formula and 60% greater than the prediction by the latter.
G. M. Kovalapoff

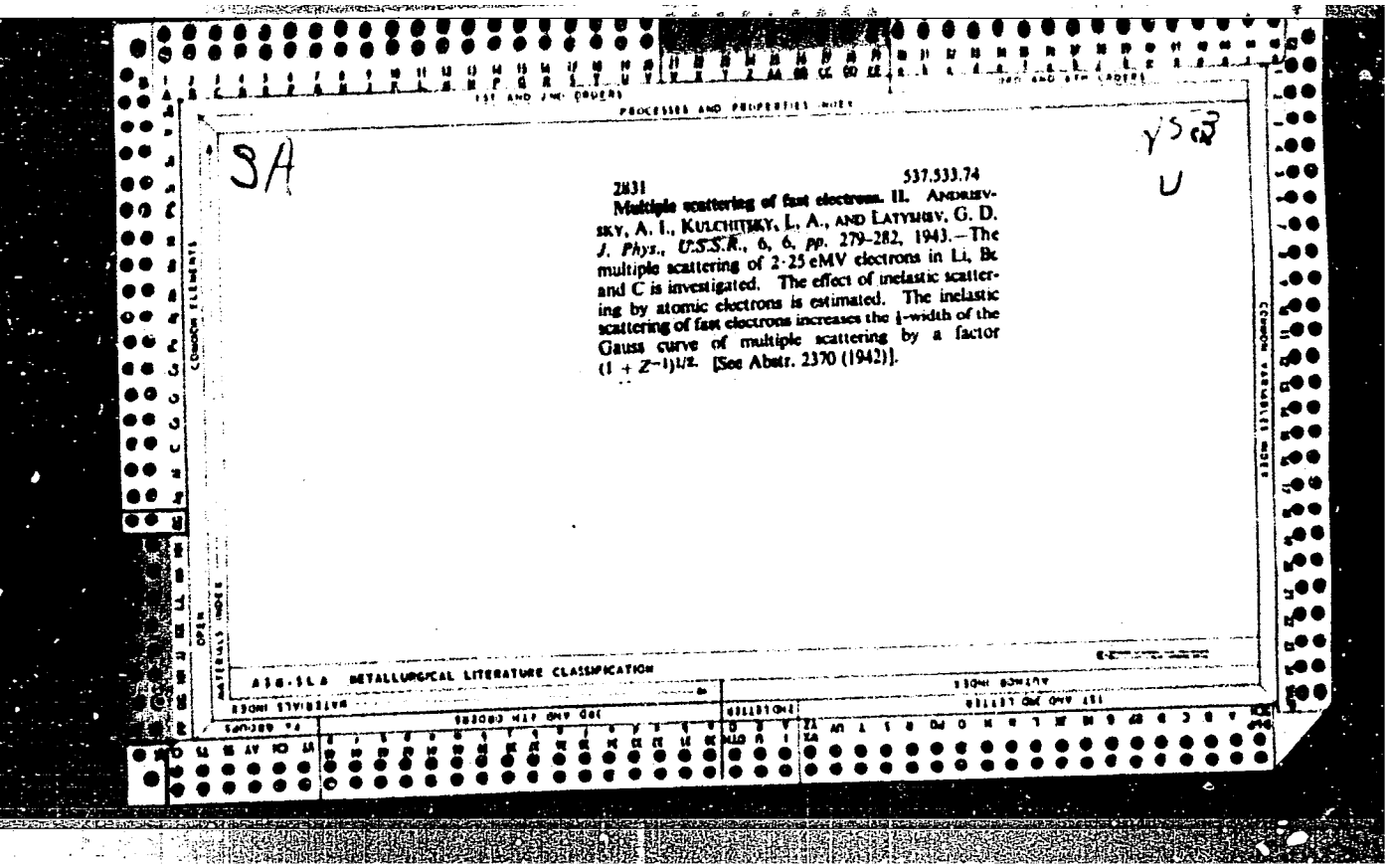


C A

3

Spectrum of recoil electrons from the γ-rays of an active thorium deposit. G. D. Latyshev and L. A. Kul'chitskii. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 11, 200-6(1941).—The recoil-electron spectrum was measured by detg. the velocity of the charged particles in a magnetic field by means of a Geiger-Müller counter. The spectrum consists of the energy groups (γ-line) 1350, 1500, 1600, 1800, 2200 and 2620 e. kv. with the relative intensities 3.0, 3.7, 10.0, 6.2, 5.05 and 100 and a weak max. at 1540 e. kv. Comparison with the inner-conversion positron spectrum measured by Alikhanov and Dzhelepov (*C. A.* 33, 1580[1]) shows that the ratios of the relative intensities are not unity but 2.77, 1.7, 1.1, 1.05, 2.0 and 1.0, resp. Assuming that the lines 1350, 1500 and 2200 are of dipolar rather than of quadrupolar origin, these data are in good agreement with the theory of Jäger and Hulme (*C. A.* 32, 8014[1]). The 1600, 1800 and 2620 lines are quadrupolar. The 2620 line arises from the reaction Th C' → Th D; the others from the Th C → Th C' reaction. An energy-level scheme is given. For the 1800 line the ratio of the probabilities of α-particle to γ-quantum radiation is 5.7×10^4.

F. H. Rathmann



SA

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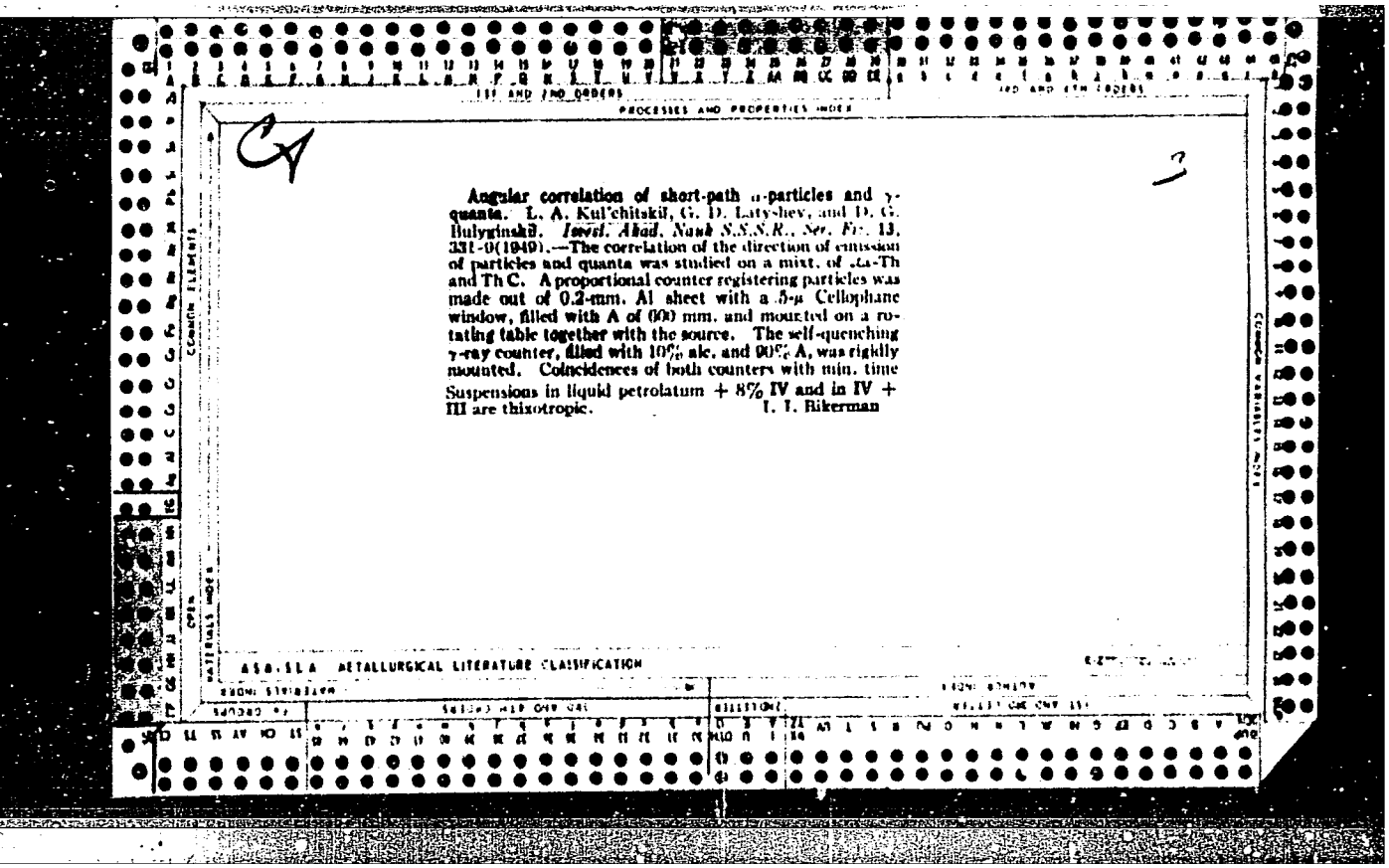
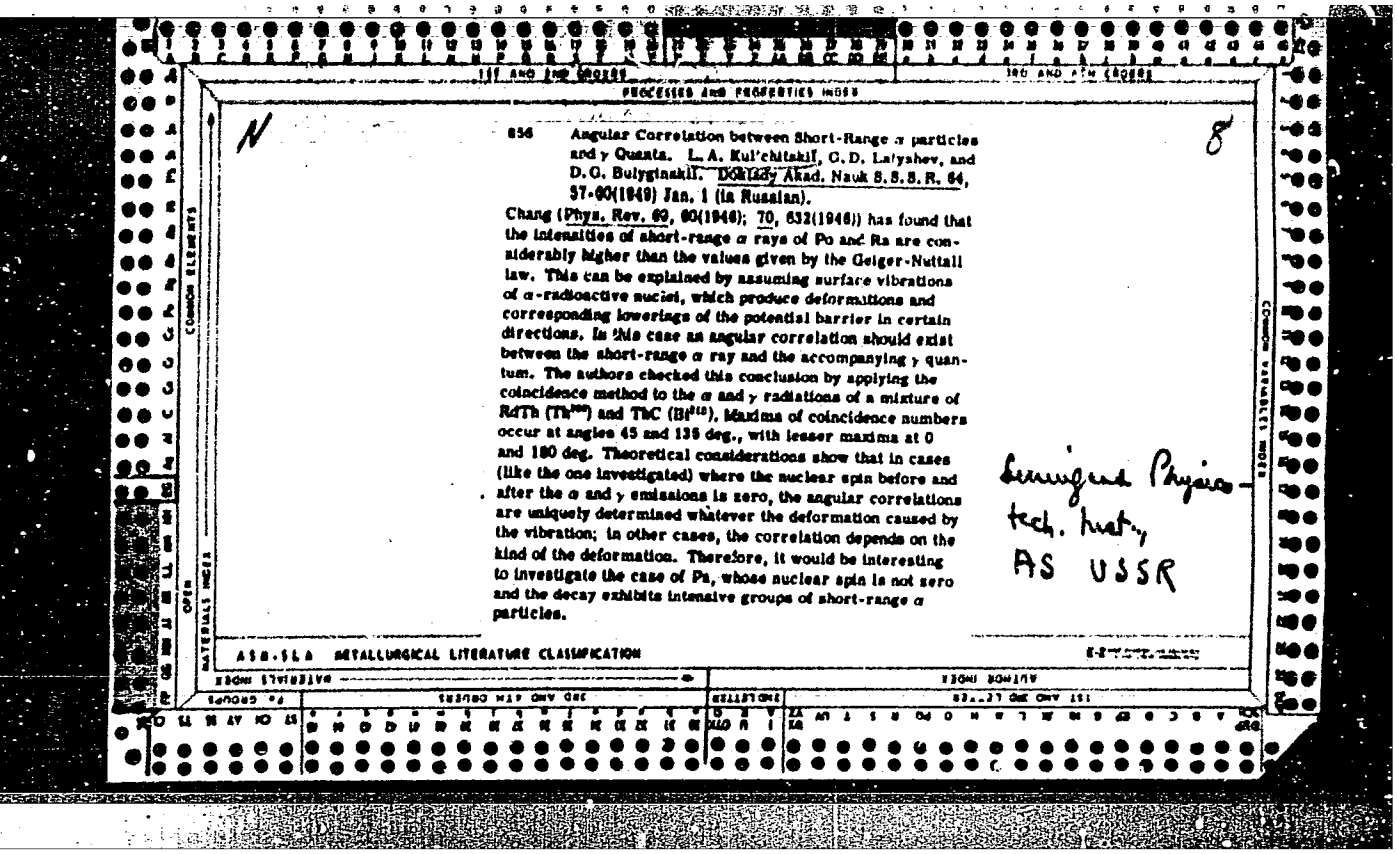
2831 537.533.74

Multiple scattering of fast electrons. II. ANDRIEVSKY, A. I., KULCHITSKY, L. A., AND LATYSHEV, G. D. *J. Phys., U.S.S.R.*, 6, 6, *pp.* 279–282, 1943.—The multiple scattering of 2·25 eMV electrons in Li, Be and C is investigated. The effect of inelastic scattering by atomic electrons is estimated. The inelastic scattering of fast electrons increases the $\frac{1}{e}$-width of the Gauss curve of multiple scattering by a factor $(1 + Z^{-1})^{1/2}$. [See Abstr. 2370 (1942)].

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Angular correlation of short-path α-particles and γ-quanta. L. A. Kul'chitskiĭ, G. D. Latyshev, and D. G. Ilulyginskiĭ. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 13, 331-0(1949).—The correlation of the direction of emission of particles and quanta was studied on a mixt. of $_{88}$Ra-Th and Th C. A proportional counter registering particles was made out of 0.2-mm. Al sheet with a .5-μ Cellophane window, filled with A of 000 mm. and mounted on a rotating table together with the source. The self-quenching γ-ray counter, filled with 10% ale. and 90% A, was rigidly mounted. Coincidences of both counters with min. time Suspensions in liquid petrolatum + 8% IV and in IV + III are thixotropic. I. I. Bikerman



856 Angular Correlation between Short-Range α particles and γ Quanta. L. A. Kul'chitskiĭ, G. D. Latyshev, and D. G. Bulyginskiĭ. Doklady Akad. Nauk S.S.S.R. 64, 37-40(1949) Jan. 1 (In Russian).

Chang (Phys. Rev. 69, 60(1946); 70, 632(1946)) has found that the intensities of short-range α rays of Po and Ra are considerably higher than the values given by the Geiger-Nuttall law. This can be explained by assuming surface vibrations of α-radioactive nuclei, which produce deformations and corresponding lowerings of the potential barrier in certain directions. In this case an angular correlation should exist between the short-range α ray and the accompanying γ quantum. The authors checked this conclusion by applying the coincidence method to the α and γ radiations of a mixture of RdTh (Th^{228}) and ThC (Bi^{212}). Maxima of coincidence numbers occur at angles 45 and 135 deg., with lesser maxima at 0 and 180 deg. Theoretical considerations show that in cases (like the one investigated) where the nuclear spin before and after the α and γ emissions is zero, the angular correlations are uniquely determined whatever the deformation caused by the vibration; in other cases, the correlation depends on the kind of the deformation. Therefore, it would be interesting to investigate the case of Pa, whose nuclear spin is not zero and the decay exhibits intensive groups of short-range α particles.

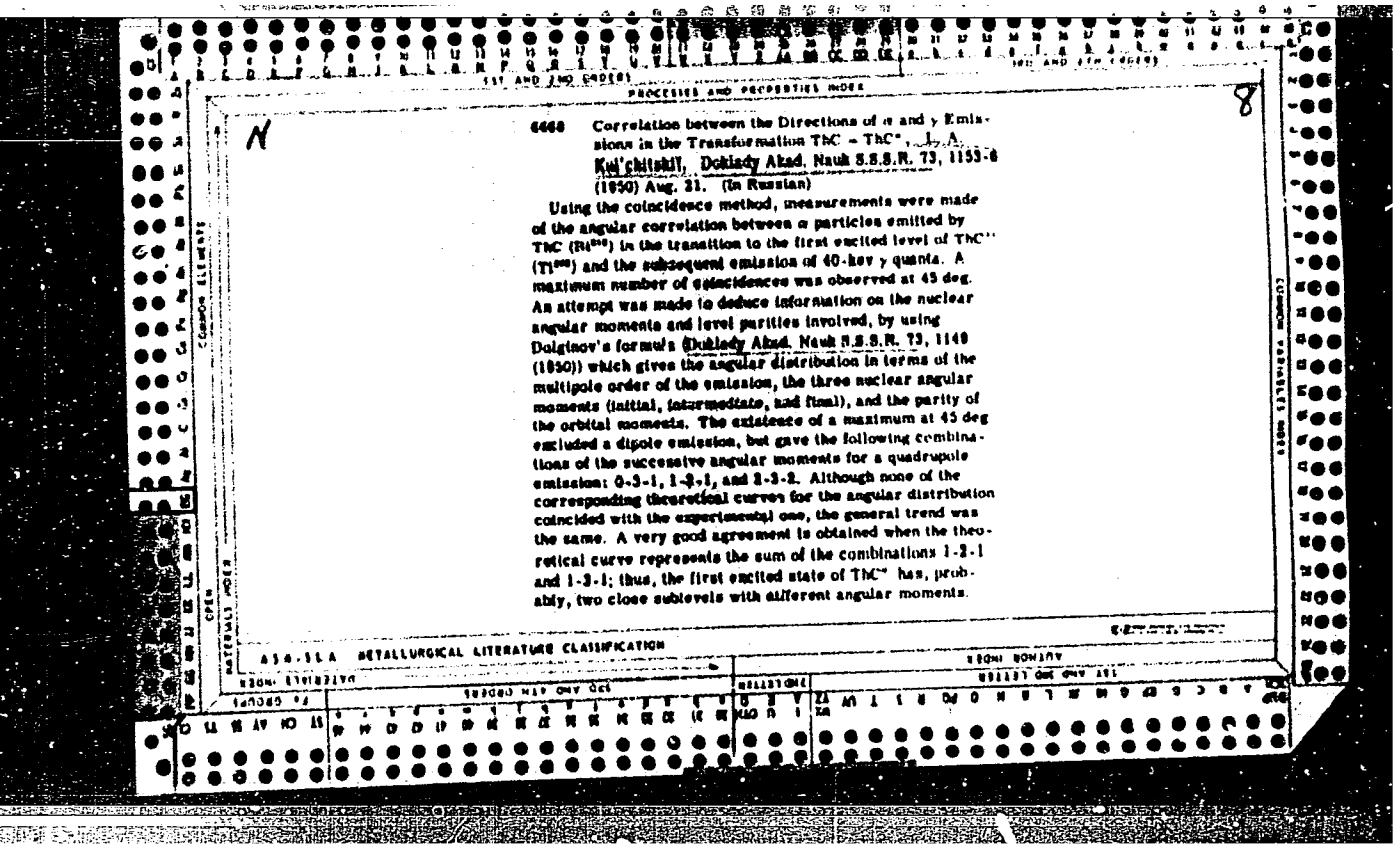
Leningrad Physico-tech. Inst., AS USSR

C. a.
1951

8a.

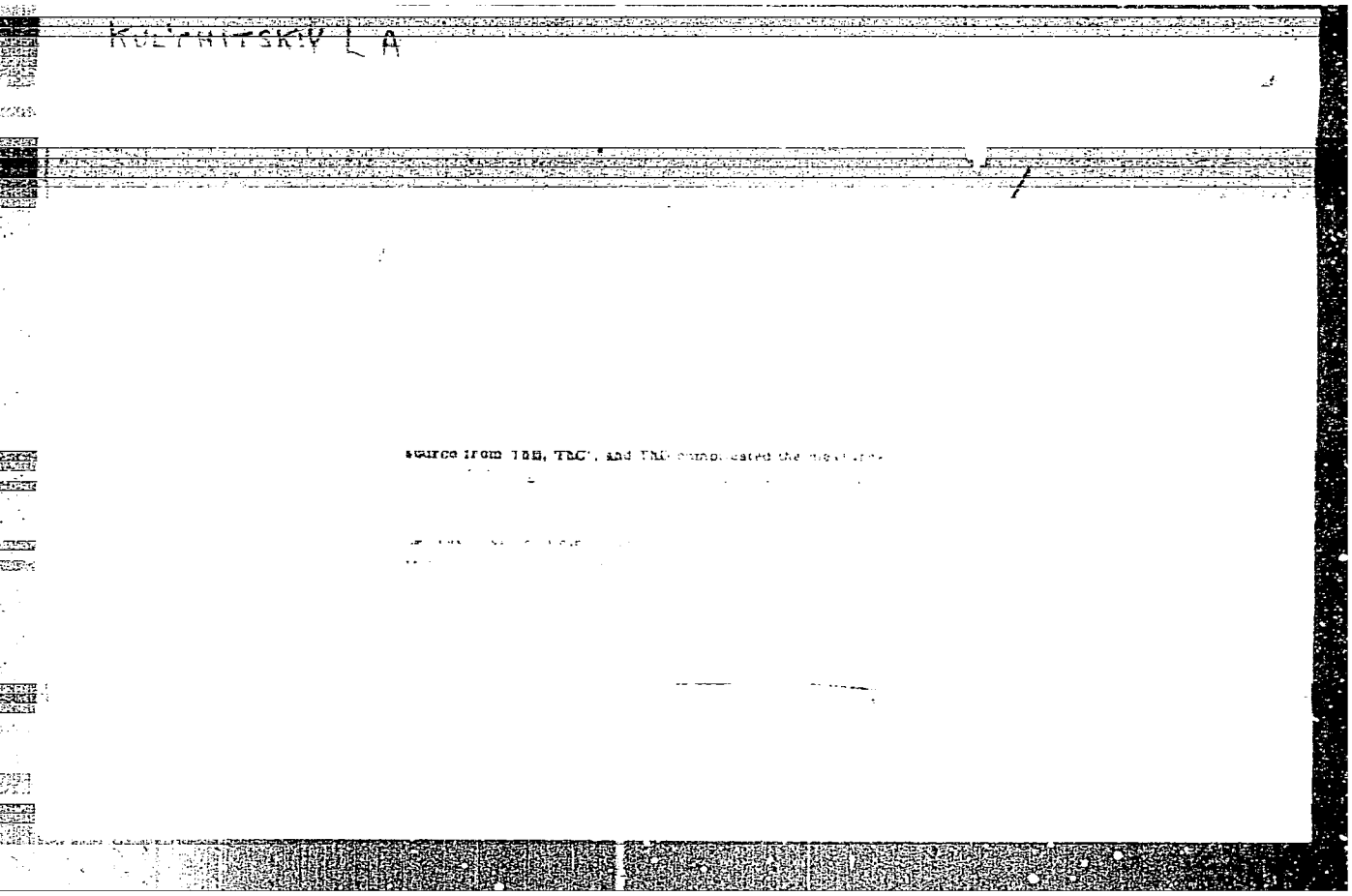
Angular correlation of short-path α-particles and [illegible] quanta. L. A. Kul'chitskii, G. D. Latyshev, and D. G. Bulyginskii (Leningrad Phys.-Tech. Inst., *Compt. Rend. Acad. Sci. URSS*). *Periodical Lit., Brookhaven Natl. Lab.* 3, 259-27[illegible] (1950)(English translation).—See *C.A.* 43, 7810[illegible].

E. J. C.



6468 Correlation between the Directions of α and γ Emissions in the Transformation ThC → ThC'', L. A. Kul'chitskii, Doklady Akad. Nauk S.S.S.R. 73, 1153-6 (1950) Aug. 21. (In Russian)

Using the coincidence method, measurements were made of the angular correlation between α particles emitted by ThC (Bi^{212}) in the transition to the first excited level of ThC'' (Tl^{208}) and the subsequent emission of 40-kev γ quanta. A maximum number of coincidences was observed at 45 deg. An attempt was made to deduce information on the nuclear angular moments and level parities involved, by using Dolginov's formula (Doklady Akad. Nauk S.S.S.R. 73, 1149 (1950)) which gives the angular distribution in terms of the multipole order of the emission, the three nuclear angular moments (initial, intermediate, and final), and the parity of the orbital moments. The existence of a maximum at 45 deg excluded a dipole emission, but gave the following combinations of the successive angular moments for a quadrupole emission: 0-2-1, 1-2-1, and 2-2-2. Although none of the corresponding theoretical curves for the angular distribution coincided with the experimental one, the general trend was the same. A very good agreement is obtained when the theoretical curve represents the sum of the combinations 1-2-1 and 1-2-1; thus, the first excited state of ThC'' has, probably, two close sublevels with different angular moments.



BAZHANOV, Ye.B., CHIZHOV, V.P., KOMAR, A.P., KUL'CHITSKIY, L.A.
VOLKOV, Yu.M., and YAVOR, I.P.

"Photodisintegration of Nuclei by Gamma-Radiation from Leningrad Synchrotron at 60-90 Mev."

Physics Inst. im Lebedev, Acad. Sci. USSR

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

KUL'CHITSKIY, L.A.

AUTHOR: BAZHANOV,E.B., VOLKOV,YU.M., KOMAR,A.P., PA - 2648
KUL'CHICKIY,L.A., CHIZHOV,V.P.

TITLE: Angular and Energy Distribution of Fast Photoprotons from Ni and Al. (Energeticheskoye i uglovoye raspredeleniye bystrykh fotoprotonov iz Ni i Al, Russian).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 65 - 67 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: The authors investigated by the method of the scintillation telescope the angular and energy distribution of fast photoprotons from Ni and the energy distribution of photopretons from Al. The Ni and the Al were irradiated with a spectrum of γ-quanta with $E_{max} = 85 \pm 5$ MeV. The telescope consisted of a 0,026 cm thick CsJ(Tl) front crystal and NaJ(Tl) rear crystal of 1,65 cm thickness, which were connected with photomultipliers. The impulses of the front and of the rear counter were investigated by means of a five-channel integral- and a five-channel differential discriminator respectively. Two curves illustrate the energy distributions of the protons emitted from Ni and Al at an angle of 90° to the bundle (in the laboratory system). The energy distribution of the protons emitted from either element have the same form $f(E_p) \sim E_p^{-n}$. With protons of more than 33 MeV n is more than twice the amount of the

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Angular and Energy Distribution of Fast Photoprotons from Ni and Al.

value of n corresponding to lower energies. The position of the breaks in the energy spectrum corresponds to the breaks computed according to the theory of the Photofission of the static deuteron. A further diagram illustrates the angular distribution of the fast protons emerging from Ni in the laboratory system for the two energy intervals of 20 - 33 and 33 - 65 MeV of proton energy. Here the degree of asymmetry in the angular distribution increases with growing proton energy. The character of the energy- and angular distributions obtained here indicates the applicability of the "quasi deuteron model" in this energy domain of γ -quanta. (3 illustrations).

ASSOCIATION: Leningrad Physical-Technical Institute of the Academy of Science of the U.S.S.R.

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress.

Card 2/2

21 (0)

AUTHORS: Bazhanov, Ye. B., Volkov, Yu. M., Kul'chitskiy, L. A. SOV/56-35-2-3/60

TITLE: Investigation of Protons With Energies of 15 - 65 MeV in the Photodisintegration of Al and Ni (Issledovaniye protonov s energiyami 15 - 65 MeV pri fotorasshcheplenii Al i Ni)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 2, pp 322-327 (USSR)

ABSTRACT: The present paper is a continuation and further development of the papers (Refs 1, 2) which were published jointly by the authors and by Komar, Chizhov, and Yavor. A report is given concerning the investigation of the angular distribution of photoprotons (Al and Ni) at a maximum bremsstrahlung energy of $E_{\gamma\ max}$ = 85 MeV, as well as of the energy distribution of Al-photoprotons at $E_{\gamma\ max}$ = 90 MeV and various angles. Experimental arrangement: Shielding wall made from Pb, monitor, magnet, Pb-collimator, telescope, target, camera. The protons originated from the

Card 1/3

Investigation of Protons With Energies of 15 - 65 MeV in the Photodisintegration of Al and Ni

SOV/56-35-2-3/60

100 MeV-synchrotron of the FTI. Recording of photodisintegration products was carried out by two scintillation telescopes (counters) arranged opposite to each other, the target for the investigation of the angular distribution of protons was a foil with 110 μ (for Al) and 50 μ (for Ni) the diameter was 1.6 cm. The results of the investigations are shown by diagrams. Angular distribution of Al photoprotons: figure 3; angular distribution of Ni photoprotons: figure 4; (3 and 2 curves respectively for different proton energies). Energy spectrum of Al photoprotons: figure 5 calculated for $\theta = 30, 90,$ and 130°, and figure 6 for $\theta = 90^{\circ}$. The results are studied and discussed from the viewpoint of the quasi-deuteron mechanism of interaction between γ- quanta and nuclei. There are 6 figures, 1 table, and 10 references, 6 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut (Leningrad Physico-Technical Institute)

Card 2/3

Photo-Deuterons of Medium Energy From C^{12} and Be^{9} SOV/56-36-2-1/63

$E_p > 16$ Mev. In the last part of the paper the results concerning deuterons are subjected to a semiempirical analysis, and calculated as well as experimental results are compared with one another (see figures 6, 7, and a table). It is assumed that the photo-deuterons are formed in the course of a pick-up process. For a rough estimation of the cross section of the (γ, d) reaction on C^{12} cross section values of the reaction (p, d) obtained by other authors are used (Refs 6, 11). The authors finally thank the synchrotron team of the FTI AN SSR (Physico-Technical Institute AS USSR) under the direction of N. N. Chernov for their help and collaboration. There are 7 figures, 1 table, and 11 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: June 26, 1958

Card 3/3

21(7) SOV/56-36-2-1/63

AUTHORS: Chizhov, V. P., Kul'chitskiy, L. A.

TITLE: Photo-Deuterons of Medium Energy From C^{12} and Be^{9} (Fotodeytrony srednikh energiy iz C^{12} i Be^{9})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 345-352 (USSR)

ABSTRACT: The present paper investigates the energy distribution of photo-deuterons and protons and the energy dependence of the ratios of deuteron and proton yields in the photodisintegration of C^{12} and Be^{9}. In the case of C^{12} disintegration was induced by bremsstrahlung of the energy $E_{\gamma max}$ = 80 Mev and in the case of Be^{9} by bremsstrahlung with $E_{\gamma max}$ = 90 Mev. Further, the angular distribution of deuterons and protons from Be^{9} was investigated. The particles leaving the nucleus in a photodisintegration were detected and identified by two independant telescopes of scintillation counters. Each telescope consisted of two scintillation counters connected in coincidence. In this way only such cases were recorded in which the particle had

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penetrated the thin crystal of the first counter. The crystal had a thickness of 0.8 mm and consisted of NaJ(Tl). In the first crystal the particles lose $\Delta E \sim dE/dx$, and in the thick crystal of the second counter, the entire remaining energy E. The recorded impulse pairs (one of which is proportional to ΔE, the other to E) are photographed. Such a diagram of the distribution $\Delta E : E$ for protons and deuterons from Be^{9} is shown by figure 1. The diagram also contains the calculated distribution curves for protons, deuterons, and tritons. The experimental results published in the following have already been made known by the authors at the All-Union Conference for Nuclear Reactions for Low and Medium Energies (1957). Diagrams show the energy distribution of protons and deuterons in the case of measurements carried out with a telescope inclined at 90° to the beam of γ-quanta (Be^{9})(Fig 2); the same is the case with C^{12} (Fig 3); figure 4 shows the ratio of the energy dependence of the particle numbers $N_d(E_d)/N_p(E_p)$ for Be^{9} and C^{12}, in all cases at $\theta = 90°$; figure 5 shows several measurements of the angular distributions of photo-deuterons and -protons at $E_d > 18$ Mev and

Card 2/3

21.5000,24.6700,24.6800,
24.6810,16.8100,24.2600

76964
SOV/56-37-6-4/55

AUTHORS: Kul'chitskiy, L. A., Presperin, V.

TITLE: Fast Photoneutrons From Be^9, C^{12}, and Al^{27}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1524-1529 (USSR)

ABSTRACT: An investigation was carried out of the angular distribution of photoneutrons with energies above 10 mev emitted by Be^9, C^{12}, and Al^{27} targets under irradiation by 88 mev peak energy bremsstrahlung. The registration and estimation of the energy was done by the recoil proton method (cf. V. P. Chizhov, L. A. Kul'chitskiy, Zhur. eksp. i teoret. fiz., 36, 345, 1959). The background during the determination of the angular distributions and the energy distributions was $\leqslant 3\%$ and $\leqslant 5\%$ respectively. The angular distribution for each exhibited quite a strong shift in the maximum in the direction of small angles (the maxima were located at $\sim 60^\circ$). The comparison of the angular distribution

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data with the quasi-deuteron model of K. Dedrick (cf. Phys. Rev., 100, 58, 1955) gave a qualitative accord between them. The theoretical calculations based on the direct resonance photoeffect without compensation for magnetic interactions did not accord with the experimental results. However, in the authors' opinion, this fact could not completely exclude the possibility of the effect due to the direct resonance absorption of γ-quanta. There is 1 schematic diagram of the setup; 5 graphs; and 15 references, 8 Soviet, 1 Canadian, 6 U.S. The 5 most recent U.S. references are: A. C. Odian, P. C. Stein, A. Wattenberg, B. T. Feld, R. Weinstein. Phys. Rev., 102, 837, 1956; M. Q. Barton, J. H. Smith. Phys. Rev., 110, 1143, 1958; P. S. Baranov, V. I. Gol'danskii, V. S. Roganov. Phys. Rev., 109, 1801 1958; C. Whitehead, W. R. McMurray, M. J. Aitken, N. Middlemas; C. H. Collie. Phys. Rev., 110, 941, 1958; L. Allen. Phys. Rev., 98, 705, 1955.

Fast Photoneutrons From Be^9, C^{12}, and Al^{27} 76964
SOV/56-37-6-4/55

ASSOCIATION: Leningrad Phys.-Tech. Inst. Acad. Sciences USSR (Leningradskiy fiziko-tekhnicheskiy institut, Akademii nauk SSSR)

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24.6520

AUTHORS: Bazhanov, Ye. B., Kul'chitskiy, L. A.

TITLE: Investigation of High-energy Protons in the Photodisintegration of Li^6

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1685 - 1687

TEXT: High-energy protons (>16 Mev) emitted in the photodisintegration of Li^6 were studied with a view to determine the excitation functions and the excitation probabilities for He^5 and Li^5. The experiments were carried out on the 100 - Mev synchrotron of FTI AN SSSR (Institute of Physics and Technology of the AS USSR). The targets were 100 mg/cm^2 thick and consisted of 90% Li^6 and 10% Li^7. Protons of energies higher than 16 Mev produced in the photodisintegration of Li^6 were recorded by an arrangement described in Ref. 1 (Scintillation counter telescopes). Data were obtained on the photoproton yield as a function of gamma energies (E_γ = 35-87 Mev) for five proton groups

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with mean energies of 16, 20, 25, 30, and 35 Mev. The width of the energy interval in each group was 20 - 25% of the average energy of the group. Fig. 1 shows the excitation functions for protons with E_p=20 Mev obtained from the experimental curve of the proton yield. The yield and cross section curves of other groups had analogous forms. Measurements were made for θ=57.5 and 102.5°, yet the angles had no significant effect on the results. A relatively slow change of the cross section with the quantum energy was the characteristic feature of the cross section curves at all energies. To obtain additional data, np coincidences were measured for the bremsstrahlung spectrum of the gamma quanta with $E_{\gamma max}$=87 Mev. The neutrons were recorded by a scintillation counter of 6.3 cm^3 volume filled with a solution of p-terphenyl in xylene (5g/l). The proton telescope was placed at an angle of 78° and the neutron counter at an angle of 90° with respect to the gamma beam. The efficiency of the np coincidence recording was 0.104±0.039. The degree of excitation of He^5 and Li^5 nuclei can be obtained from the contributions of the reactions $Li^6(\gamma p)He^5$, $He^5 \rightarrow He^4+n$ and $Li^6(\gamma n)Li^5$, $Li^5 \rightarrow He^4+p$ on the basis of the energy balance.

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The following results were obtained: The ratio of the number of coincidences to the number of recorded protons: 0.0102 ± 0.0035; the same on the assumption of a 100% correlation of the angles of emission of neutron and proton: 0.096 ± 0.074; the same on the assumption of isotropic distribution of the angles of emission of neutrons: 0.3 - 0.4. Considering the large dimensions of the neutron counter the probability of the correlated np coincidences being essentially more than 10% of the total number of recorded protons is small. The fact that 30 to 40% of the recorded protons could be accompanied by neutrons indicates a significant production probability of He^5 and Li^5 nuclei in highly excited states. Fig. 2 shows the results of a measurement of proton angular distributions at $E_{\gamma max}$=87 Mev and E_p=20 - 31 Mev The curve a is calculated from a formula of G. M. Shklyarevskiy (Ref. 6) which assumes a single-nucleon interaction of gamma quanta in the Li^6 nucleus (curve normalized for θ=60°). The curve b does not satisfactorily agree with the experimental data. Curve c was calculated on the assumption of quasi-deuteron interaction and was also normalized for θ=60° For small θ this curve exceeds the experimental values Professor A. P Komar

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Investigation of High-energy Protons in the Photodisintegration of Li^6

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and N. N. Chernov of the cyclotron team are thanked for interest I. P. Yavor is mentioned. There are 2 figures and 6 references: 4 Soviet 1 US, and 1 Dutch.

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ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut (Leningrad Institute of Physics and Technology)

SUBMITTED: January 8, 1960

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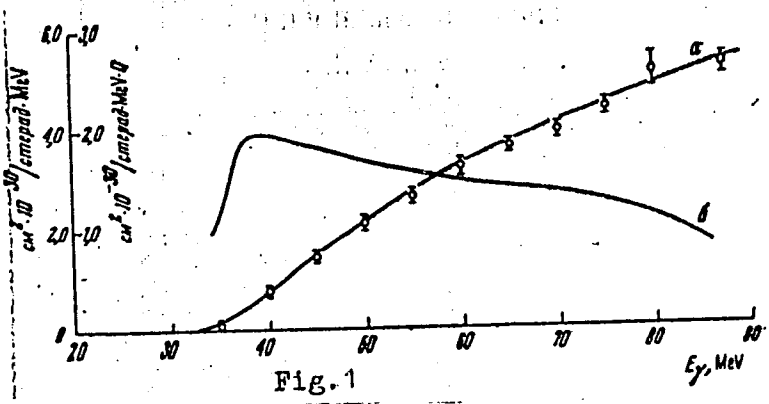

Fig. 1

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Fig. 2

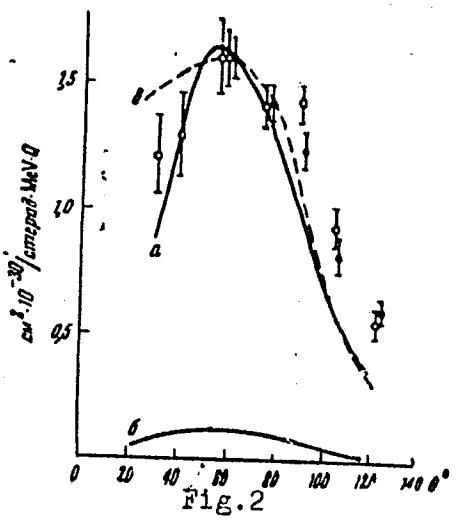

Fig.2

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24.6510

AUTHORS: Kul'chitskiy, L. A., Presperin, V.

TITLE: Fast Photoneutrons From Some Elements

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 1001-1004

TEXT: This work is a continuation of the photoneutron investigations begun earlier (Ref. 1). While the experimental apparatus remains unaltered, an improvement is mainly to be found in the evaluation of the experimental data. An estimate of the difference in the energy distribution of the forward and backward emitted neutrons (with respect to the gamma beam) was made. Fig. 1 shows the angular distribution of the 10-Mev photoneutrons from a lithium target. A significant shift of the maximum in the direction of small angles was observed; it is observed also for 18-Mev neutrons (Fig. 2). A comparison with the angular distribution of recoil protons (Figs. 3,4) confirms that the asymmetry of the neutron angular distribution is not caused by the apparatus. It

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was also observed for 10-Mev neutrons from iodine (Fig. 5). The relative neutron yields from Li, Be, O, Al, Ca, Cu, I and Bi are given in a Table. The first two have the largest yields. The authors mention a paper of G. M. Shklyarevskiy (Ref. 7). There are 4 figures, 1 table, and 7 references: 2 Soviet, 3 US, 1 Canadian, and 1 Italian.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

SUBMITTED: June 23, 1960

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PRESPERIN, V.; KUL'CHITSKIY, L.A.

Yield curves of fast photoneutrons from C^{12} and Al^{27}. Zhur.eksp.i teor.fiz. 41 no.1:60-63 Jl '61. (MIRA 14:7)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
(Neutrons) (Carbon—Isotopes) (Aluminum—Isotopes)

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AUTHORS: Volkov, Yu. M., Kul'chitskiy, L. A.

TITLE: Photonuclear reactions involving the emission of deuterons and tritons with energies below 15 Mev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 1, 1962, 109-114

TEXT: The absolute and relative yields of photodeuterons and phototritons with energies below 15 Mev, emitted during bremsstrahlung-induced photodisintegration of Li^6, Li^7, B^{11}, and Cu were determined. The p, d, and t angular distributions in Li^7 photodisintegrations were also measured. The charged particles were recorded and identified with scintillation counter telescopes. In so doing, the pulse heights were measured, one of which was proportional to the energy loss ΔE in the thin crystal of the front counter of the telescope, while the other was proportional to the particle energy E. The crystals were placed in a vacuum chamber together

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with the targets. When the pulses from the two crystals coincided ($\tau \sim 0.2$ μsec), E=E(ΔE) appeared on the screen of an oscilloscope. From the resulting curves, the curves for tritons, deuterons, and protons were separated by calculation (Fig. 1). Photodeuterons are predominantly produced in complex reactions, in which one or several particles are emitted in addition to the deuterons. Both the excitation function of the $Li^7(\gamma, t)$ reaction and the angular distribution of tritons fit the concept of direct dipole absorption of γ-quanta by the Li^7 nucleus which is regarded as a "triton + α-particle" system. V. P. Chizhov is thanked for discussions, and the collective of the FTI synchrotron team, headed by N. N. Chernov, for assistance in the experiments. There are 5 figures, 1 table, and 8 references: 6 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: M. E. Toms. Bibliography of Photonuclear Reactions, U.S. Naval Research Laboratory, Washington, 1960; B. Forkman, Nucl. Phys., 23, 269, 1961.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences USSR)

Photonuclear reactions involving... S/056/62/042/001/017/048
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Fig. 1. Distribution of the points determined experimentally during the photodisintegration of Li^7 ($E_{\gamma max}$ = 63 Mev).

Legend: N is the number of particles per zone.

Fig. 5. Angular distribution of protons, deuterons, and tritons with energies between 7.5 and 15 Mev, emitted during the photodisintegration of Li^7 by bremsstrahlung ($E_{\gamma max}$ = 63 Mev).

Legend: (1) protons; (2) deuterons; (3) tritons.

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KUL'CHITSKIY, L.A.; VOLKOV, Yu.M.; DENISOV, V.P.; OGURTSOV, V.I.

Levels in the Li^7 nucleus appearing in its photodisintegration. Izv. AN SSSR. Ser. fiz. 27 no.11:1412-1418 N '63.

(MIRA 16:11)